

### **Remarks**

Applicant respectfully requests reconsideration of this application. Claims 1-44 and 47 have been canceled. Claims 45-46 and 48-69 have not been further amended. None of the claims have been allowed.

### ***Information Disclosure Statement***

Applicant wishes to disclose the status of other applications that may be considered related to the present application, as follows: serial no.: 10/315,624 (issued as US 7,684,752; 03/23/2010); serial no.: 10/315,694 (issued as US 7,493,078; 02/19/2009); serial no.: 10/367,178 (issued as US 7,593,361; 09/22/2009); serial no.: 10/618,931 (Final Office Action rejecting all pending claims mailed 06/08/2010); serial no.: 10/889,326 (Final Office Action rejecting all pending claims mailed 06/09/2010); serial no.: 10/367,197 (issued as US 7,590,084; 09/15/2009); serial no.: 10/315,788 (issued as US 7,558,525; 07/07/2009); serial no.: 10/395,749 (Appeal Brief filed 09/29/2008); serial no.: 10/407,445 (issued as US 7,567,527; 07/28/2009); serial no.: 11/800,543 (issued as US 7,741,665; 05/05/07); and serial no.: 10/435,005 (issued as US 7,215,660; 05/08/07).

### ***Traversal of Claim Rejections Under 35 U.S.C. § 103(a)***

Claims 45-46 and 48-69 stand rejected under 35 U.S.C. § 103(a) as being unpatentable *Lau et al.* (US 6,690,657; "Lau") in view of *Oura* (US 6,115,369; "Oura"). Applicant respectfully traverses this ground of rejection.

The distinctions between the cited prior art references and the claimed subject matter have been discussed at length in Applicant's previous amendments and arguments. On page 4 of the Final Office Action mailed 06/08/2010 in discussing the limitations of claim 45, the Examiner concedes that Lau does not disclose *receiving the data in the first frequency band during odd time intervals and*

*transmitting on the first frequency channel during even time intervals, the second transceiver not transmitting during the odd time intervals.* However, the Examiner maintains his rejection of claims 45-46 and 48-69 based on the same combination of references previously cited, interpreting the claim limitations as,

"... comprising a first access point, which receives on a first time slot and transmits on a second time slot, and a second access point, which receives on a second time slot and transmits on a first time slot."

The Examiner contends that "Oura teaches wireless repeating across time slots utilizing the same frequency, which is equivalent to the Applicant's instant invention that wireless [sic] repeats calls across time slots utilizing the same frequency." On page 5 of the Final Office Action mailed 06/08/2010, the Examiner then concludes:

"Oura teaches a wireless repeating system, which wireless [sic] repeats transmissions on the same channel on separate time slots to avoid possible interference from neighboring devices. Because both Lau and Oura teach methods and devices for wirelessly repeating transmission, it would have been obvious to one of ordinary skill in the art to substitute wirelessly repeating transmissions across time slots for wirelessly repeating transmissions across channels to achieve the predictable result of expanding network coverage for wireless devices utilizing wireless repeaters."

Applicant respectfully disagrees for the reasons given below.

As explained in Applicant's previous responses, Lau not only discloses that his repeaters are receiving and transmitting *simultaneously*, but that multiple repeaters are transmitting in *same* time interval on the *same* channel. For example, in column 7, lines 32-33, Lau states, "Repeaters receiving this signal repeat it on CH2 during timeslot 1." Not only is this contrary to the language of the subject claims, it teaches away from creating the chain of non-interfering, channel-efficient, high-bandwidth, high-reliability repeaters of the instant invention. The reason why is because if multiple repeaters are all within maximum bandwidth range of a given

signal, their destination receivers in a chain of repeaters will be within the interference range of the multiple repeaters (see Figs. 2A, 2B, 3, 5, 6, and 8 of Applicant's disclosure). It is well-known by practitioners skilled in the art that repeaters need a clear channel for retransmission in order to achieve high bandwidth (or potentially even operate at all). Lau explicitly acknowledges this constraint and proposes some solutions to address it, e.g., Col. 5, lines 65-67 through Col. 6, lines 1-6, which states:

"In other embodiments, the repeaters can measure signal strength and decide for each signal, whether to repeat the CH1 signal on CH2, or to repeat a CH2 retransmission on CH3. Other possibilities include sensing the source and/or destination of the signal and performing an appropriate repetition. The receiving T/R modules can select either a CH2 signal or a CH3 signal for demodulation, and in some embodiments this selection is expanded to include a CH1 signal.

But none of Lau's proposed solutions teach the limitations of the subject claims. Rather, Lau teaches away from the claimed invention by having all repeaters retransmitting immediately on arbitrary channels, regardless of network topology. Indeed, a key utility of the claimed subject matter is overcoming the low reliability, low bandwidth, inefficient channel use that arises with prior art approaches to repeating, such as those taught by Lau.

Applicant respectfully submits that the Examiner's interpretation of the claimed invention is also contrary to the language of the subject claims. Claim construction analysis always begins with the words of the claim. See *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582, (Fed. Cir. 1996). That is, the claim language defines the bounds of claim scope. *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 619-20 (Fed. Cir. 1995); *Renishaw PLC v. Marposs Societa' Per Azioni*, 158 F.3d 1243, 1248, 48 USPQ2d 1117, 1120 (Fed. Cir. 1998) ("[T]he claims define the scope of the right to exclude; the claim construction inquiry, therefore, begins and ends in all cases with the actual words of

the claim."). Thus, the language of the claim frames and ultimately resolves all issues of claim interpretation. *Abtox, Inc. v. Exitron Corp.*, 122 F.3d 1019, 1023 (Fed. Cir. 1997).

Under a proper claim construction, Lau fails to teach the elements and limitations of the claimed invention. Indeed, the combination of Lau and Oura fail to teach or suggest receiving and transmitting in odd/even time intervals using first and second transceivers.

Furthermore, Applicant contends that a skilled person would also have lacked motivation to attempt to combine Lau with Oura since Lau specifically teaches that TDMA repeater approaches suffer from channel interference issues, with the implicit lack of reliability and loss of channel utilization efficiency, rendering the wireless channel inadequate to transmit real-time audiovisual content. Applicant therefore respectfully submits that a person of ordinary skill, upon reading the Lau reference, would be discouraged from attempting to implement a wireless repeater having first and second transceivers that receive and transmit in the same frequency band during odd/even time intervals.

Oura, aside from being non-analogous art, discloses that audio information is transmitted at the relatively slow data speeds of 384 kbps. (Column 4, lines 30-39) In contrast, Applicant discloses a wireless repeater transmitting data at a data rate of 11 megabits per second, or greater. Given the enormous difference in transmission rates and the completely different problems faced when transmitting content (e.g., video) at high data rates versus low data rate transmission (e.g., simple voice data), Applicant respectfully submits that a person or skill working in the field of wireless networks with repeaters would not consider mobile phone communication systems to be within the same field of endeavor as the claimed subject matter. Nor would such a person have a reasonable expectation of

success at achieving data rates of 11 megabits per second or greater by combining Oura's teachings with that of Lau.

With respect to the Examiner's contention that Oura's teaching of a Time Division Duplex communication system is somehow equivalent to Applicant's claimed wireless network comprising a plurality of repeaters, each having upstream and downstream transceivers that respectively receive and re-transmit on different (delayed) intervals, as recited, for example, in claim 60, Applicant respectfully disagrees.

A person of ordinary skill in the art would understand that combining Oura with Lau for the purpose of achieving the subject claims would lead to an inoperable result. One reason why is that Oura is designed very specifically to achieve a *single* repetition, not a chain of repetitions. A person of ordinary skill in the art attempting to install or use two or more of Oura's repeaters in a chain would understand that they would interfere with one another – rendering the system useless. Indeed, Oura specifically designed his protocol to accommodate a *single* repeater extension of a wireless network that may or may not be needed, *not* a chain or topology of repeaters. In other words, by teaching a one repeater protocol, Oura teaches away from the concept of a wireless network comprising a plurality of repeaters arranged in a tree topology or chain for transmitting data at a high data rate from a source to a destination device.

If a person of ordinary skill attempted to construct a wireless network utilizing the alternated time slots taught in Oura's Fig 3A with more than one repeater, the result would be multiple repeaters, base stations and mobile stations all transmitting in interference with one another. Indeed, Oura's protocol appears to be specifically conceived in contemplation of just *one* repeater. The expectation is that there will be situations where the mobile device is in range of the base station, and thus there will

be direct communications between them without interference by the repeater.

Otherwise, the proposed protocol is simply wasteful of bandwidth.

A person of ordinary skill in the art would thus conclude that Oura's teachings are limited to a single repeater; that is, Oura's invention merely expands a mobile base station's coverage area by a single repeater in such a way that if the repeater is not present, direct communications can occur without requiring a change to the protocol. For example, in column 6, lines 25-33 Oura states:

"The mobile station B etc. can therefore make calls with the base station A in the same order regardless of whether or not the repeater 20 is present, i.e. when direct communication is possible with the base station A calls are made with the base station A in the conventional order but when direct communication with the base station A is not possible, calls can be made with the base station A using the same order via the repeater 20. As a result, the possible call area can easily be broadened."

In sum, Oura teaches away from utilizing more than one repeater in a wireless network, and utilizing a topology of multiple repeaters (Oura's protocol is inherently limited insofar as it is *fixed* by design to work whether there is a repeater there or not, a limitation which makes it impossible to implement a chain of repeaters).

Furthermore, Lau teaches away from the approach taken by Applicant by teaching a system and method that uses repeaters having multiple transceivers that transmit and receive *simultaneously* on different frequency channels. A person of skill reading Lau would definitely have been discouraged from attempting the claimed subject matter since both Lau and Oura teach away from Applicant's claimed subject matter. Such a skilled person would also have lacked any motivation to attempt to combine Lau with Oura since Lau specifically teaches that TDMA approaches are limited to a 1Mbps throughput, a rate that is adequate for a mobile phone system, but which is completely inadequate to transmit data at a data rate of 11Mbps.

Contrary to the Examiner's contention, it would not have been obvious for a person of ordinary skill in the art to substitute Oura's a Time Division Duplex communication approach for Lau's teaching of simultaneously transmitting on different channels for the purpose of arriving at the claimed subject matter. A person of ordinary skill in the art would understand that any such combination would lead to an inoperable result due to the interference problems that each reference inherently presents.

Applicant therefore respectfully submits that a person of ordinary skill in the art would have lacked any reason to combine or modify the cited prior art references in the manner suggested by the Examiner. And that such an ordinary practitioner would have had no reasonable expectation of success at achieving Applicant's claimed invention in view of the contrary teachings of the cited references, as well as the inoperability of any combination of the references aimed at achieving a multi-repeater wireless network.

### ***Double Patenting Rejection***

Claims 45-46 and 48-69 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of U.S. Patent No. 7,593,361.

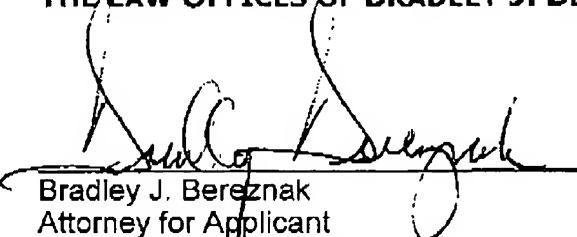
Applicant is submitting herewith a terminal disclaimer disclaiming the terminal part of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on the commonly-owned U.S. Patent No. 7,593,361. Applicant respectfully submits that the attached terminal disclaimer obviates the rejections on the grounds of nonstatutory obviousness-type double patenting.

Applicant respectfully submits that pending claims 45-72 are now in condition for allowance.

Please charge any shortages of fees or credit any overcharges of fees to our  
Deposit Account No. 50-2060.

Respectfully submitted,  
**THE LAW OFFICES OF BRADLEY J. BEREZNAK**

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